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 THIS MACHINE may be demonstrated to practical Brick Makers to excel every other machine used, or intended for the manufacture of bricks. A visit to the Brick Works of ABRAHAM BROWNING, at the junction of Ridge Avenue and 28th Street, where one of them may be seen in operation, making 25,000 perfect bricks per day (of 10 hours), will be convincing.

 MILLIONS OF BRICKS made by the "Gregg Impact Brick Machine" have been used in the erection of the Centennial Buildings and their surroundings.

 Examine for yourselves. This BRICK MACHINE can be seen in active operation within 10 minutes' ride from Machinery Hall, Centennial Buildings - can be reached by the City Passenger "Ridge Avenue Cars." Persons can leave the cars corner of 28th Street and Ridge Ave, opposite Glenwood Cemetery, and have but 5 minutes' walk to the brickyard.

GREGG'S

"IMPACT"

BRICK MACHINE.

Patented October 22d, 1872.



*Guaranteed Production 25,000 per day
of 10 hours.*

PRODUCING A SUPERIOR ARTICLE OF
BRICK FROM EVERY VARIETY OF CLAY.

Showing well-defined Angles and Edges

AND

SMOOTH SURFACE.

 Examine the SUPERIOR PRESSED BRICKS, Stretchers, Back Stretchers and Salmons, in the miniature wall erected in Machinery Hall, Annex No. 3.
 TERRITORIAL RIGHTS for Towns, Cities, or States, throughout the Union, can be obtained by applying at the office of the "Gregg Impact Brick Machine Company," Room 27, Forrest Building, No. 119 South Fourth Street, below Chestnut Street, Philadelphia.

PHILADELPHIA:

PUBLISHED FOR THE

GREGG IMPACT BRICK MACHINE CO.

AT ITS OFFICE, ROOM 27, FORREST BUILDING,

No. 119 SOUTH FOURTH STREET.

1876.

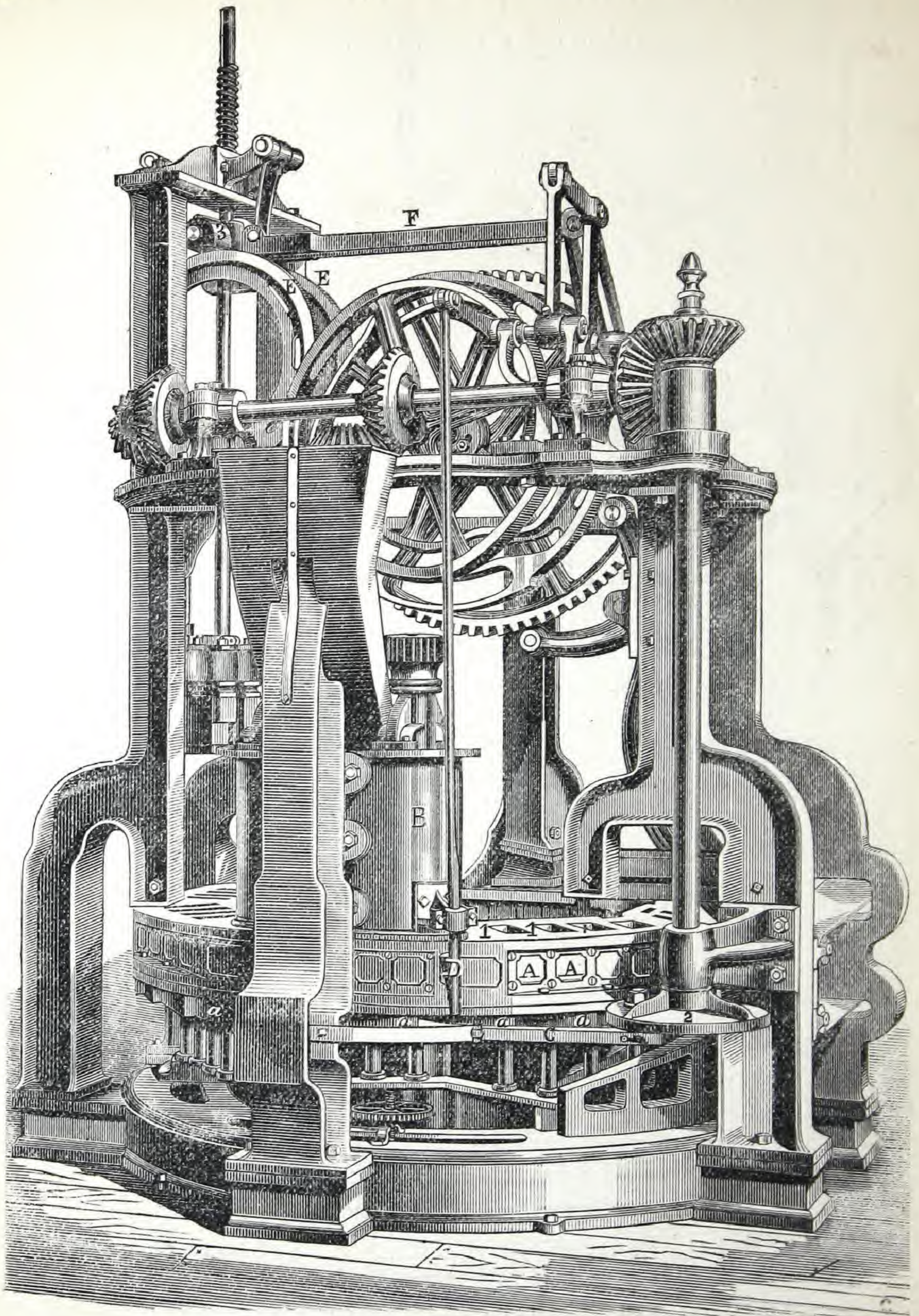


Fig. 1.

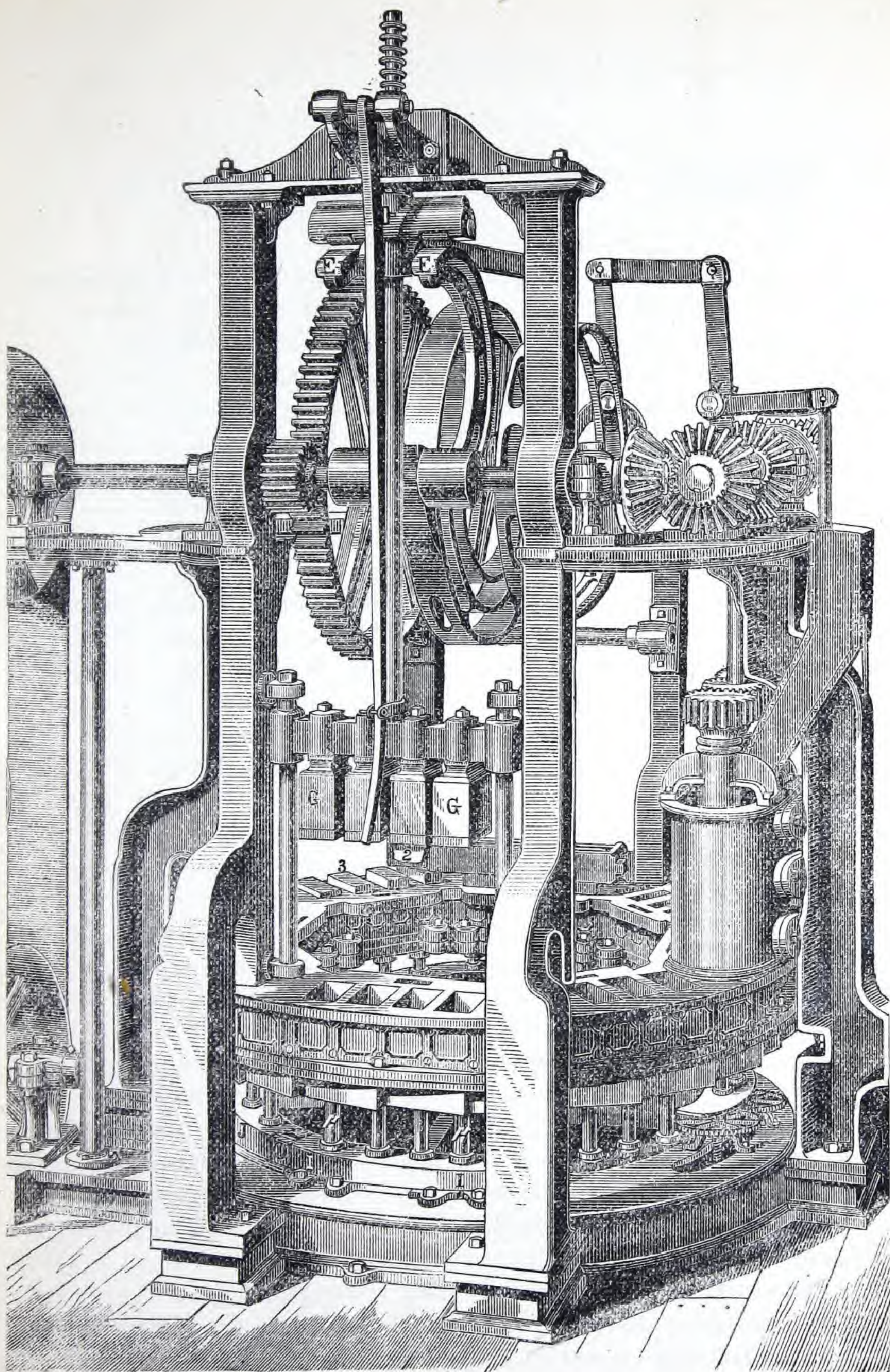


Fig. 2.

GREGG'S "IMPACT" BRICK MACHINE.

The strong prejudice existing among hand brickmakers, against bricks made by steam machinery, will never yield to anything less powerful than the inexorable logic of facts. The numerous failures in the attempts of inventors to produce a good, reliable machine have been a great drawback to much progress in this useful manufacture, for until within a very few years past no machine that has yet been offered to the public has fulfilled the expectations of their inventors or the demands of the occasion. Herewith are given engravings and descriptive matter, showing the construction and operation of a machine at Twenty-eighth Street and Ridge Avenue, in this city.

Those interested in brick-making are requested to call at the place indicated, to verify, by personal inspection, the statements made in this article.

The principal feature is a rotating mould board (A A) of thirty-two moulds, divided into eight parts or sections, four moulds, firmly bolted together, forming a section. The mould boxes have movable bottoms, to which are fastened, from beneath, followers or stems (H H, Fig. 2). Crude clay, as taken from the bank, without the admixture of water, is broken up between a pair of cone-shaped rollers, the peculiar construction of these rollers casting off the larger stones, and reducing smaller pebbles to grains of silica. The clay reduced in this manner being granulated in form, is now, by means of an elevator of buckets (not shown in the cuts), carried to a hopper (B) when water is admitted and the clay thoroughly tempered. This hopper stands directly over a set of four moulds (1 1). The clay, by its gravity, aided by three spiral "agitators," descends and fills them; when filled, the mould board or carriage (A A) rotates, bringing the four charged moulds immediately beneath four stamps or beaters (G G, Fig. 2), fitting the mould boxes with precision. These stamps or beaters, which weigh 125 lbs. each, are elevated a distance of twenty inches, and, falling independently by one, two or three successive blows, impact or pound the clay within each mould into a solid and compact brick. The four descending stamps being separated, the power is communicated to each brick alike. There is no jar to the machinery while this pounding process is going on, because the followers or stems (H H) alluded to, passing directly through the boxes, are made to stand upon an anvil (I, Fig. 2) prepared for the purpose, so that the blows are *isolated* as it were from the body of the machine. While the stamps are in motion, giving one, two or three

blows, another set of moulds is receiving clay, and after leaving the stamps, the mould board (A A) moves round, and the stems or followers begin to ascend a circular inclined plane (J, Fig. 2), gradually pushing out the bricks to a required distance and bringing them under a sizing knife (K, Fig. 3) which cuts off the superfluous or extra clay which was allowed in excess in the moulds, and by this means reduces every one to a uniform thickness. After leaving this knife (K), the followers then continue to ascend the incline (J) pushing out the finished bricks, which finally arrive at the summit or level (L, Fig. 4), where they are swept off by an automatic arm (M, Fig. 4) on to trays, or on to a travelling belt (P, Fig. 4), and are carried away. During the ascent of the incline, the followers receive successively a momentary but powerful upward thrust, *re*-pressing the impacted bricks. The superfluous clay from the stamping, as well as that which is cut off by the sizing knife, is elevated by an endless belt and buckets (not shown in the cuts), and discharged into the pit.

Since the accompanying illustrations were prepared, important modifications have been made, considerably increasing the efficiency and durability of the machine. The arm and sweep (M, N) are now operated by a horizontal rock-shaft, which is actuated by a cam on the vertical shaft shown to the left in Fig. 2. The driving-belts are now placed overhead. There has been some change in the mechanism for rotating and stopping the mould board, making it positive that the moulds shall be directly under the stamps during the impact.

The beaters (G G), which are shown all attached to a single vertical bar, have been separated from each other, and each has its own guide-bar. The spiral spring is omitted. The two horn-shaped cams (E E), and the bar (F), are replaced by four quadrantal cams, which allow each beater to descend independently, giving each filled mould equal impacting force. The followers (H H), which received their ultimate vertical *re*-pressing force by passing successively over a small wheel whose face projected very slightly above the incline (J), now receive this momentary and powerful upward pressure by means of four levers operated by cams, and this *re*-pressing is now effected while the mould board is at rest, the stems receiving the thrust successively.

Fifteen horse power will drive the machine, grind the clay, and move the bricks off the machine.

The whole manufacture is simply in five operations, viz.: receiving clay at the hopper, stamping it, cutting off the excess, *re*-pressing, and finally the discharge. While the hopper is charging one set of moulds, the rotating mould board remains stationary, and the stamps or beaters are then in operation at another set previously filled; and when the table rotates to bring another section of moulds in place under the stamps, these last, by a suitable contrivance, are held in suspension, and at the proper time descend to perform their work.

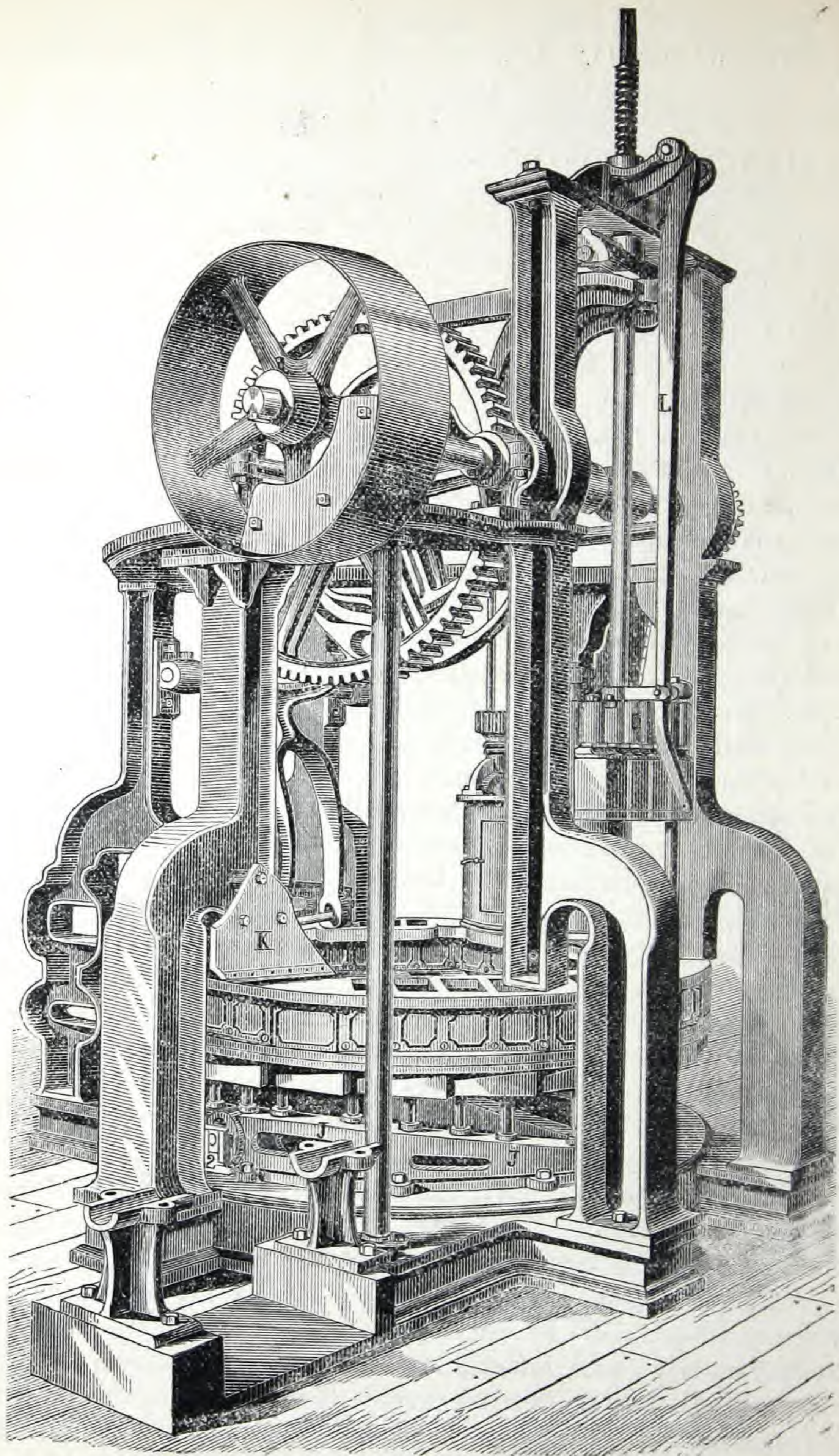


Fig. 3.

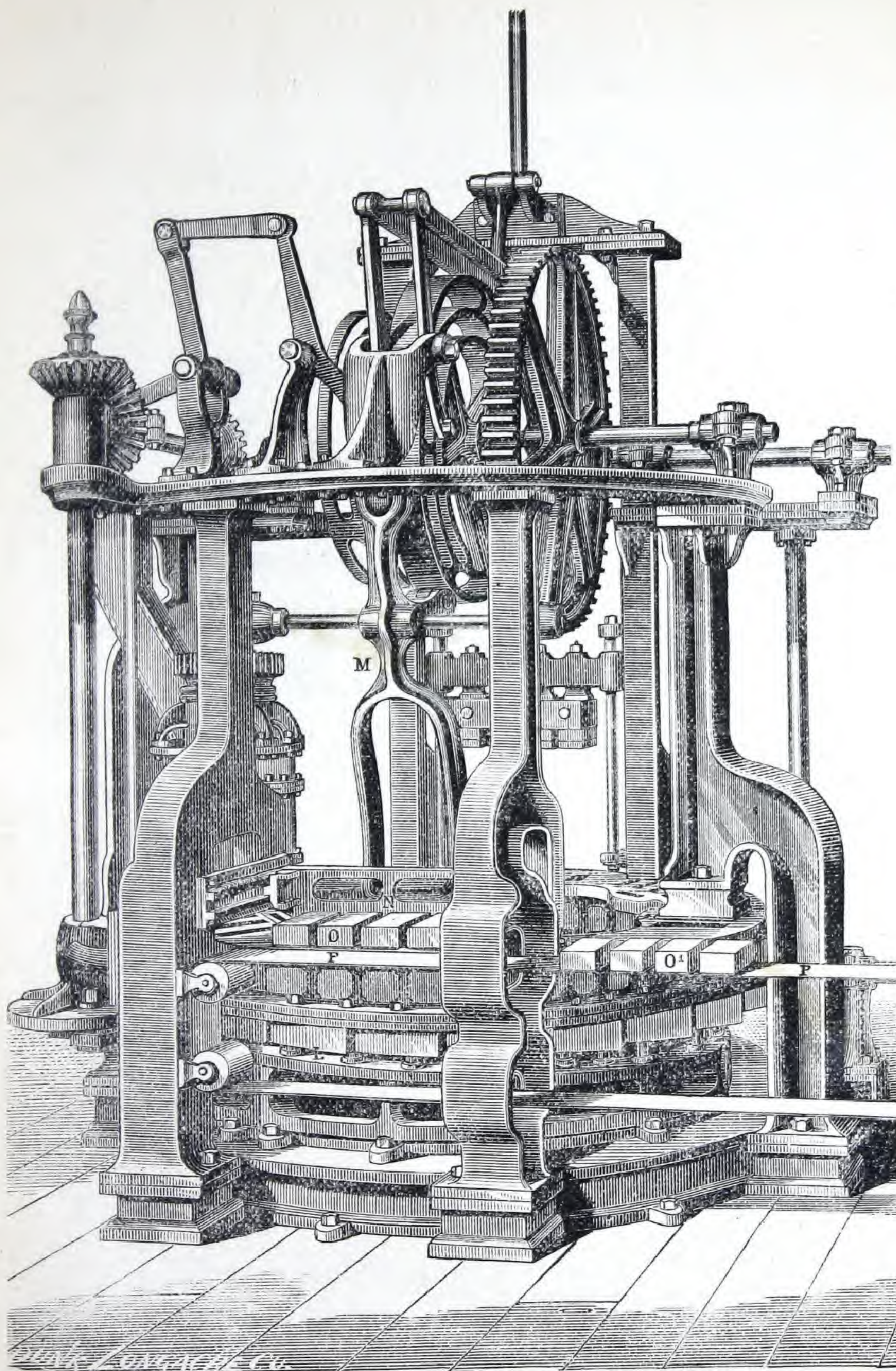


Fig. 4.

The Gregg "Impact" Machine Company believe, and are confident, that the inventor has discovered a principle in compressing clay and forming it into bricks, that must, when its advantages are appreciated, be universally adopted. It is claimed that this machine tempers the clay, stamps it into the moulds, sizes the bricks, and presses them, at an average of about 2,500 bricks per hour, at one-half the cost of hand-made bricks when they are ready to be moved to the kiln; that the quality of bricks made by this process must necessarily be superior to any other, for they are less porous, and will stand more pressure than any other machine-made brick, and that in these respects, hand-made bricks cannot enter into competition with them at all. In burning, the usual proportion of hard bricks is obtained; and, if the color were only satisfactory, the salmon impact brick would answer as well for an outside wall as ordinary light stretchers, while the arch and hard bricks are superior to any made by any steady pressure machine. The bricks are uniform in thickness, the edges regular and straight, and they make a wall which, for beauty and regularity, can be surpassed only by pressed fronts, which can also, by a change of moulds, be made in this machine without re-pressing. It is urged also that all of the work may be done under cover, thereby saving great loss from rain (often reaching 33 per cent.), incident to manufacturing out in the open field. In view of the fact that the bricks from this machine are dried by artificial heat, the manufacture can be conducted to the same advantage in winter as in summer.

The attention of those interested in the manufacture of bricks is especially directed to the fact of this machine being susceptible of producing grades of *front* or *face* bricks.

This machine has worked continuously for three years, in which time it has made about fifteen million bricks, bringing the highest market prices. In certain respects it has the advantage over any steady pressure machine, for the force used to stamp the clay into the mould will so intimately cement the particles, that a very good brick can be made of very poor clay, while one far superior can be made of good clay. A large portion of the bricks made by this machine has been used in the construction of the Centennial Buildings and surrounding structures.

The Company refers, by permission, as to quality of its bricks, to

RICHARD J. DOBBINS, 104 S. 6th St.

MOORE & SCATTERGOOD, 1603 Columbia Av.

S. P. RUSH & SON, 1308 Green St.

E. RAFSNYDER, 1536 N. 19th St.

SAMUEL HART, 1104 Wallace St.

EDWARD BENDER, 963 Franklin St.

JOSEPH M. PRICE, 1417 N. 8th St.

HIRAM MILLER, Tioga.

SAMUEL SLOAN, 152 S. 4th St.

JOHN CRUMP, Colonnade Hotel.

And many others.